Claim 1. (Previously Amended) Method of suppressing amylose fermentation in potato, characterized by genetically engineered modification of the potato by introducing into the genome of the potato tissue a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the antisense direction, wherein said fragment is selected from the group consisting of SEQ ID. No.1, SEQ ID No.3, and fragments encoding the amino acid sequences of SEQ ID No.6-17, together with a promoter selected from the group consisting of CaMV 35S, patatin I and the GBSS promoter.

Claims 2 and 3. (Canceled)

Claim 4. (Previously Amended) Fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment is selected from the group consisting of SEQ ID. No.1, SEQ ID No.3, and fragments encoding the amino acid sequences of SEQ ID No.6-17.

Claims 5 and 6. (Canceled)

Claim 7. (Previously Amended) Antisense construct for inhibiting expression of the gene for granule-bound starch synthase in potato, comprising

a) a promoter,

b) a fragment of the potato gene coding for granule-bound starch synthase inserted in the antisense direction, wherein said fragment is selected from the group

consisting of SEQ ID No.1, SEQ ID No.3, and fragments encoding the amino acid sequences of SEQ ID No.6-17.

Claim 8. (Original) Antisense construct as claimed in claim 7, characterised in that the promoter essentially has the sequence stated in SEQ ID No.4.

Claim 9. (Original) Antisense construct as claimed in claim 7, characterised in that the promoter is selected among the CaMV 35S promoter and the patatin I promoter.

Claim 10. (Previously Amended) Vector comprising a fragment of the potato gene coding for the granule-bound starch synthase (GBSS), wherein said fragment is selected from the group consisting of SEQ ID. No.1, SEQ ID No.3, and fragments encoding the amino acid sequences of SEQ ID No.6-17, and inserted in the antisense direction in relation to a promoter immediately upstream from the gene fragment.

Claim 11. (Previously Amended) Vector comprising the antisense construct as claimed in claim 7.

Claim 12. (Previously Amended) Cell of potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 13. (Previously Amended) Potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 14. (Previously Amended) Potato tubers whose genome comprises the antisense construct as claimed in claim 7.

Claim 15. (Previously Amended) Seeds from potato plant, whose genome comprises the antisense construct as claimed in claim 7.

Claim 16. (Previously Amended) Microtubers of potato, whose genome comprises the antisense construct as claimed in claim 7.

Claim 17. (Previously Added) Vector comprising the antisense construct as claimed in claim 8.

Claim 18. (Previously Added) Cell of potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 19. (Previously Added) Potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 20. (Previously Added) Potato tubers whose genome comprises the antisense construct as claimed in claim 8.

Claim 21. (Previously Amended) A method for tuber-specific expression of a gene product in potato, comprising transforming said potato with a DNA molecule comprising an isolated promotor from the potato gene coding for granule-bound starch synthase (GBSS).

Claim 22. (Previously Added) Antisense construct as claimed in claim 7, characterized in that the promoter has the sequence stated in SEQ ID No.4.

Claim 23. (Previously Added) A method for tuber-specific expression of a gene product in potato, comprising transforming said potato with a DNA molecule comprising an isolated promotor from the potato gene coding for granule-bound starch synthase (GBSS), said promoter having the nucleotide sequence stated in SEQ ID No.4.

Claims 24-49. (Canceled)

Claim 50. (Previously Added) A method of suppressing amylose formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating a potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the anti-sense direction, wherein said fragment has the nucleotide sequence of SEQ ID No.1.

Claim 51. (new) A method of suppressing amylose formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating a potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the anti-sense direction, wherein said fragment is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:3, together with a promoter selected from the group consisting of CaMV 35S, patatin I and the GBSS promoter.

Claim 52. (new) A fragment of a potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:3.

Claim 53. (new) An antisense construct for inhibiting expression of the potato gene which codes for granule-bound starch synthase (GBSS gene) comprising

a) a promoter,

b) a fragment of the potato gene coding for granule-bound starch synthase inserted in the antisense direction, wherein said fragment is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:3.

Claim 54. (new) Antisense construct as claimed in claim 53, characterised in that the promoter essentially has the sequence stated in SEQ ID NO:4.

Claim 55. (new) Antisense construct as claimed in claim 53, characterised in that the promoter is selected among the CaMV 35S promoter and the patatin I promoter.

Claim 56. (new) A vector comprising a fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:3, and said fragment is inserted in the antisense direction in relation to a promoter immediately upstream from the gene fragment.

Claim 57. (new) A vector comprising the antisense construct as claimed in claim 53.

Claim 58. (new) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 59. (new) A potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 60. (new) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 53.

Claim 61. (new) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 53.

Claim 62. (new) A microtuber of potato, whose genome comprises the antisense construct as claimed in claim 53.

Claim 63. (new) A vector comprising the antisense construct as claimed in claim 54.

Claim 64. (new) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 65. (new) A potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 66. (new) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 54.

Claim 67. (new) An antisense construct as claimed in claim 53 wherein the promoter has the sequence state in SEQ ID NO:4.

Claim 68. (new) A method of suppressing amylose formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating a potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch

synthase (GBSS gene) inserted in the anti-sense direction, wherein said fragment has the nucleotide sequence of SEQ ID NO:1.

Claim 69. (new) A method of enhancing amylopectin formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the anti-sense direction, wherein said fragment has the nucleotide sequence of SEQ ID NO:1.

Claim 70. (new) A fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment has the nucleotide sequence of SEQ ID NO:1.

Claim 71. (new) An antisense construct for inhibiting expression of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) comprising:

a) a promoter, and

b) a fragment of the potato gene coding for granule-bound starch synthase inserted in the antisense direction, wherein said fragment has the nucleotide sequence of SEQ ID NO:1.

Claim 72. (new) The antisense construct as claimed in claim 71, wherein the promoter is an isolated promoter from the potato gene coding for granule-bound starch synthase (GBSS).

Claim 73. (new) The antisense construct as claimed in claim 71, wherein the promoter is selected from the group of the CaMV 35S promoter and the patatin I promoter.

Claim 74. (new) A vector comprising a fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment has the nucleotide sequence of SEQ ID NO:1.

Claim 75. (new) A vector comprising the antisense construct as claimed in claim 71.

Claim 76. (new) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 77. (new) A potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 78. (new) A potato tuber whose genome comprises the antisense construct as claimed in claim 71.

Claim 79. (new) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 71.

Claim 80. (new) A microtuber of a potato, whose genome comprises the antisense construct as claimed in claim 71.

Claim 81. (new) A method of suppressing amylose formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating a potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the antisense direction, wherein said fragment is of sufficient length to result in the suppression of amylose formation when introduced into the genome of a potato tissue and said potato is cultivated.

Claim 82. (new) A method of enhancing amylopectin formation in potato, wherein the potato is modified by genetic engineering, which method comprises cultivating a potato containing in the genome of a tissue of said potato a gene construct comprising a fragment of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) inserted in the antisense direction, wherein said fragment is of sufficient length to result in the suppression of amylose formation when introduced into the genome of a potato tissue and said potato is cultivated.

Claim 83. (new) A fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment is of sufficient length to result in the suppression of amylose formation when introduced into the genome of a potato tissue and said potato is cultivated.

Claim 84. (new) An antisense construct for inhibiting expression of the potato gene which codes for formation of granule-bound starch synthase (GBSS gene) comprising:

a) a promoter, and

b) a fragment of the potato gene coding for granule-bound starch synthase inserted in the antisense direction, wherein said fragment is of sufficient length to result in the suppression of amylose formation when introduced into the genome of a potato tissue and said potato is cultivated.

Claim 85. (new) The antisense construct as claimed in claim 84, wherein the promoter is an isolated promoter from the potato gene coding for granule-bound starch synthase (GBSS).

Claim 86. (new) The antisense construct as claimed in claim 84, wherein the promoter is selected from the group consisting of the CaMV 35S promoter and the patatin I promoter.

Claim 87. (new) A vector comprising a fragment of the potato gene coding for granule-bound starch synthase (GBSS), wherein said fragment is of sufficient length to result in the suppression of amylose formation when introduced into the genome of a potato tissue and said potato is cultivated.

Claim 88. (new) A vector comprising the antisense construct as claimed in claim 84.

Claim 89. (new) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 84.

Claim 90. (new) A potato plant whose genome comprises the antisense construct as claimed in claim 84.

Claim 91. (new) A potato tuber whose genome comprises the antisense construct s claimed in claim 84.

Claim 92. (new) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 84.

Claim 93. (new) A microtuber of a potato, whose genome comprises the antisense construct as claimed in claim 84.

Claim 94. (new) An isolated, tuber-specific potato, granule-bound starch synthase (GBSS) gene promoter having essentially the nucleotide sequence of SEQ ID NO: 4.

Claim 95. (new) An isolated, tuber-specific, potato, granule-bound starch synthase (GBSS) gene protomer consisting of the nucleotide sequence of SEQ ID NO:4.